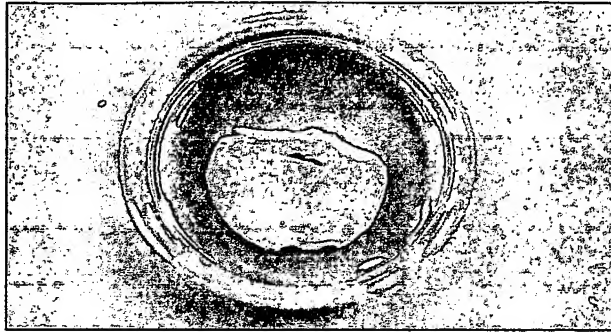
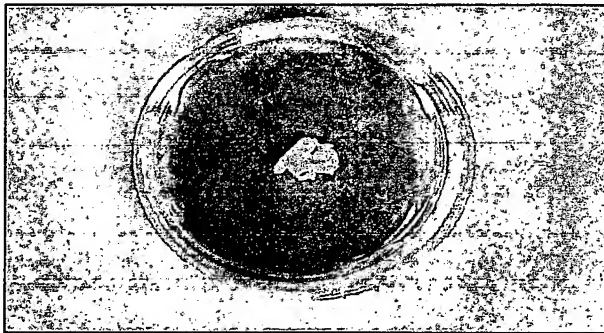


FIG 1.

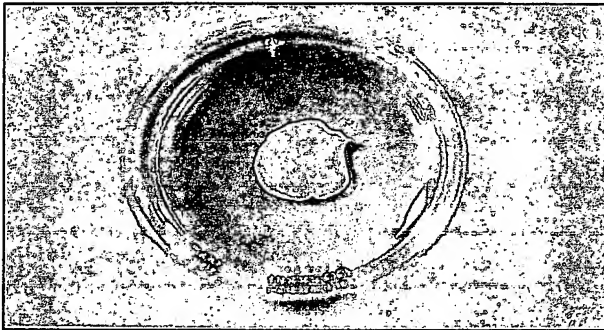
a
Dermal
Fibroblasts



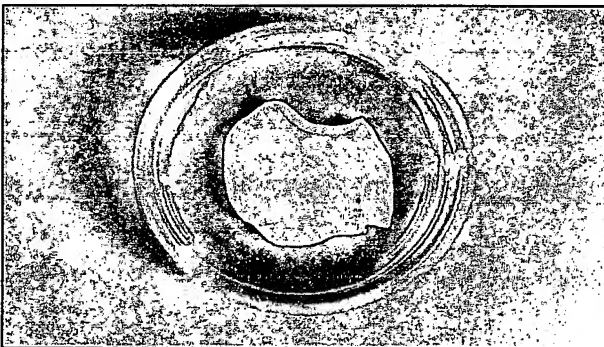
b
Adipose
stromal cells



c
Chondrocytes



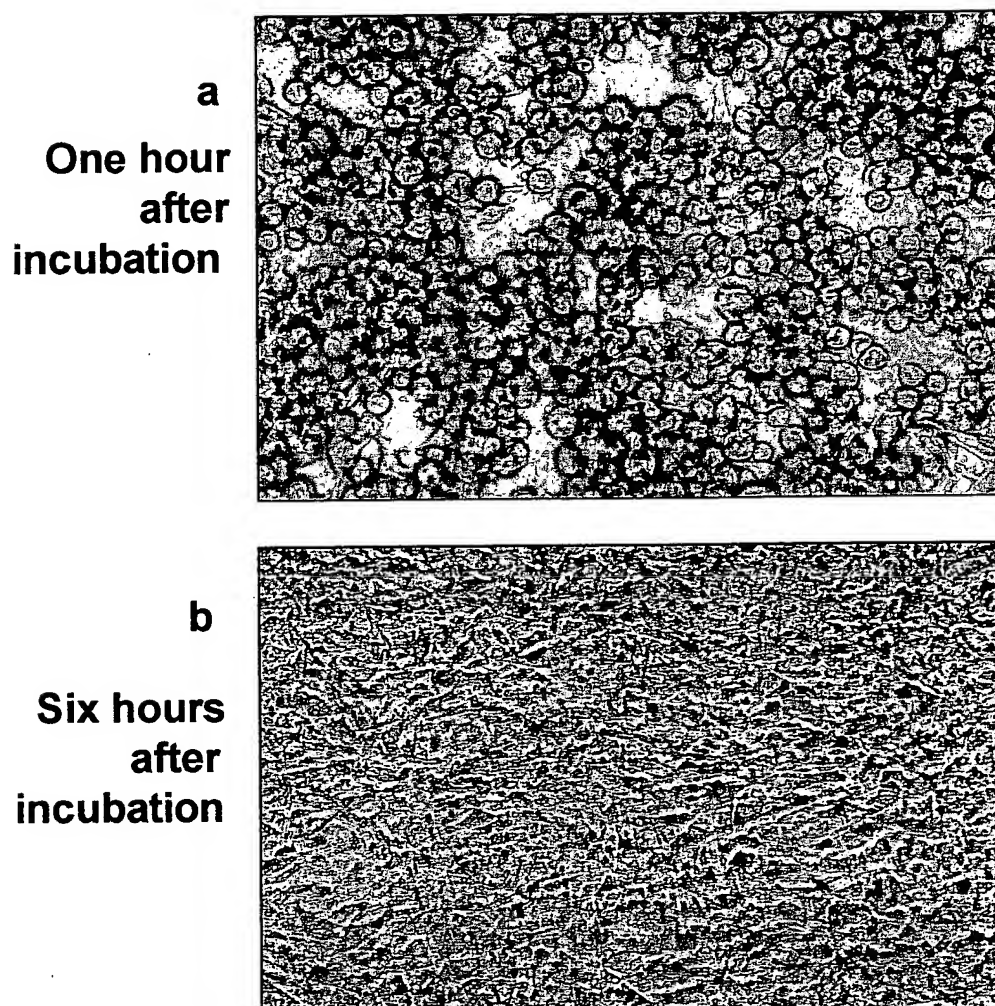
d
Osteoblasts



1 cm

Tissue-like constructs formed by macromass culture of different cell types, shown in 3.5 cm dishes.

FIG 2.



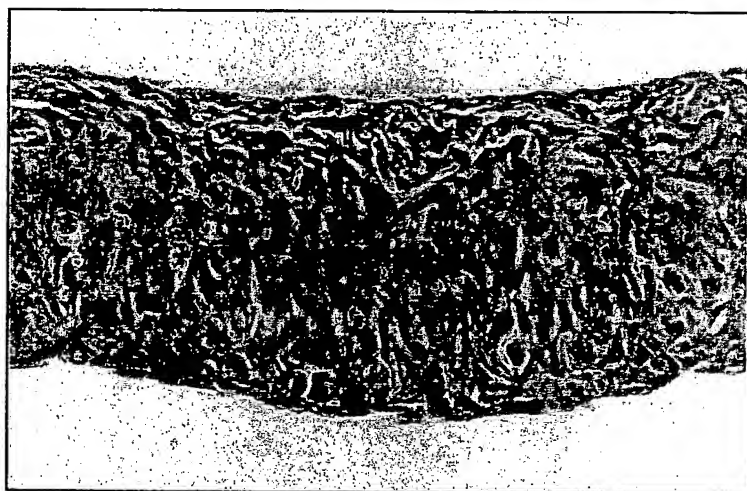
**Cell-cell integration process in macromass
culture of adipose-derived stromal cells.**

FIG 3.

a
Hematoxylin
& eosin



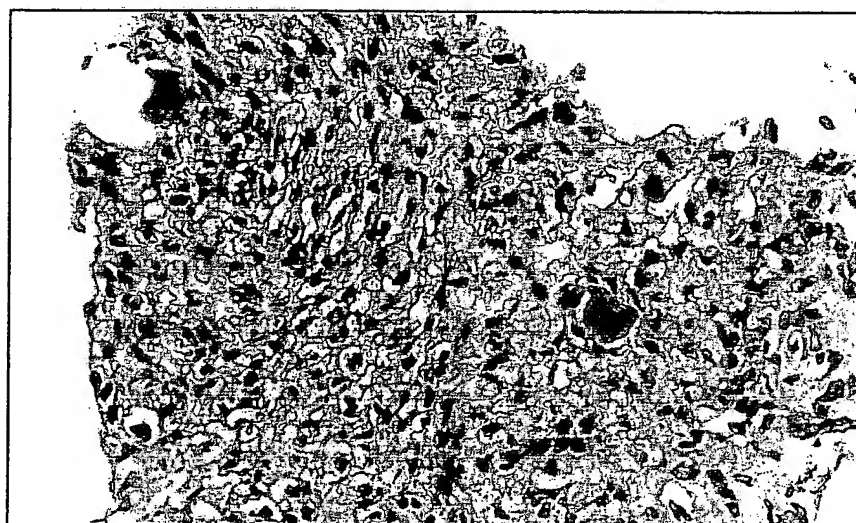
b
Masson-
Trichome



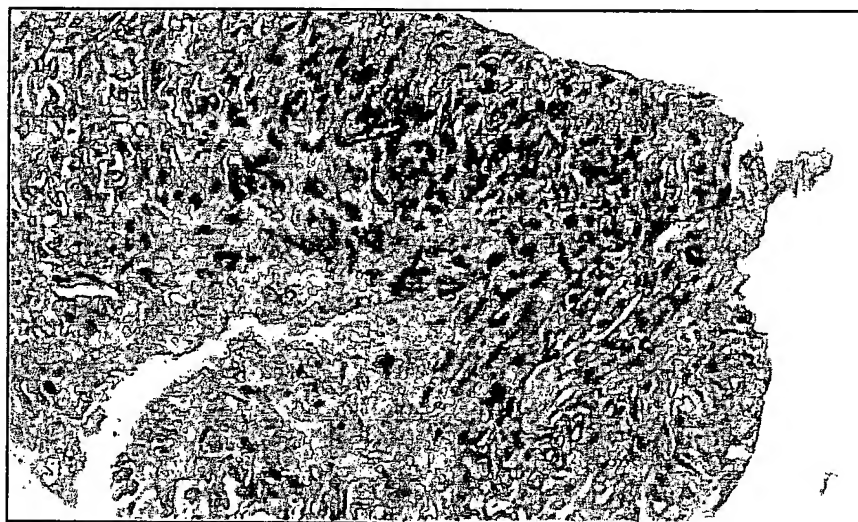
**Histological examination of tissue-sheet formed by
macromass culture from dermal fibroblasts.**

FIG 4.

a
Hematoxylin
& eosin



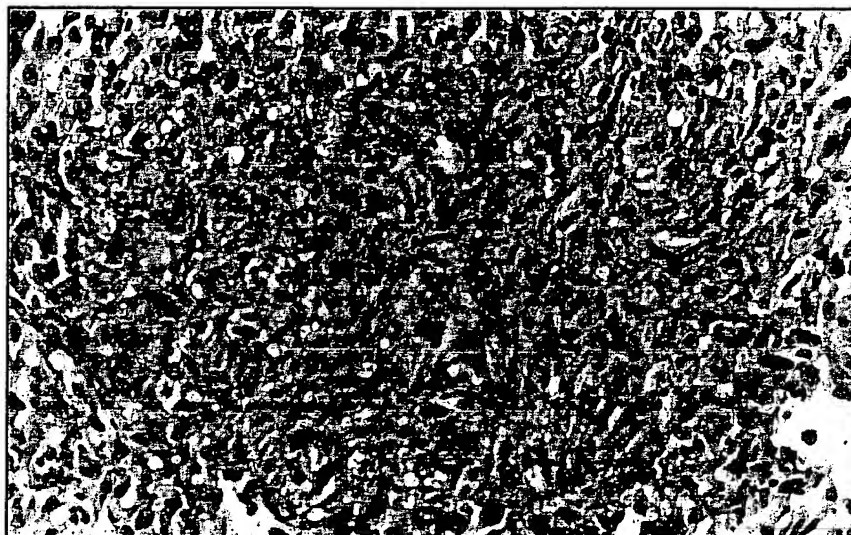
b
Masson-
Trichome



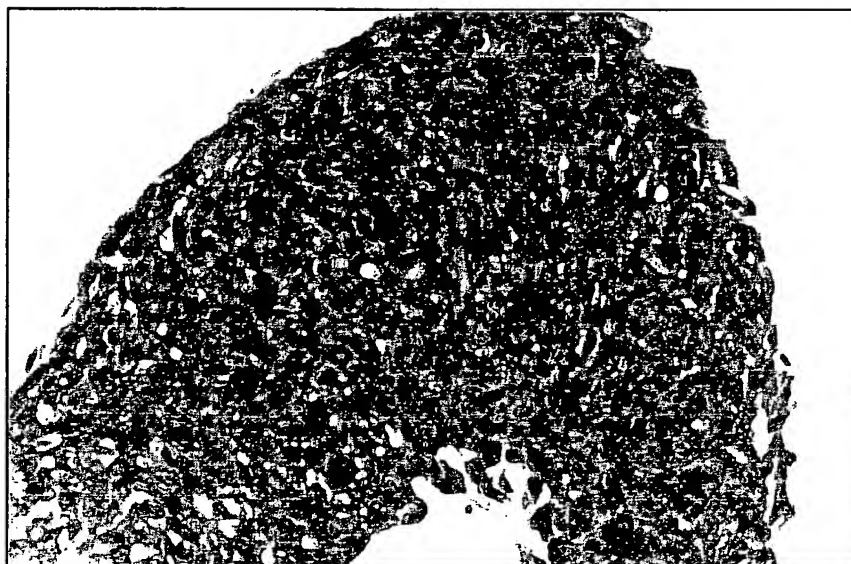
Histological examination of tissue-like construct formed by macromass culture of osteogenic cells derived from adipose stromal cells.

FIG 5.

a
Hematoxylin
& eosin

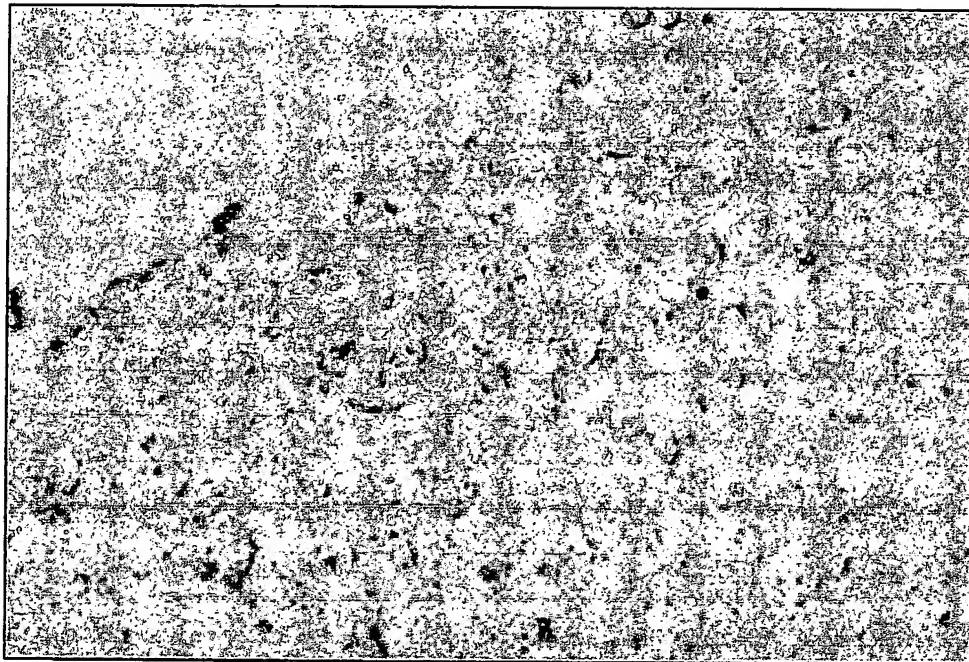


b
Masson-Trichome



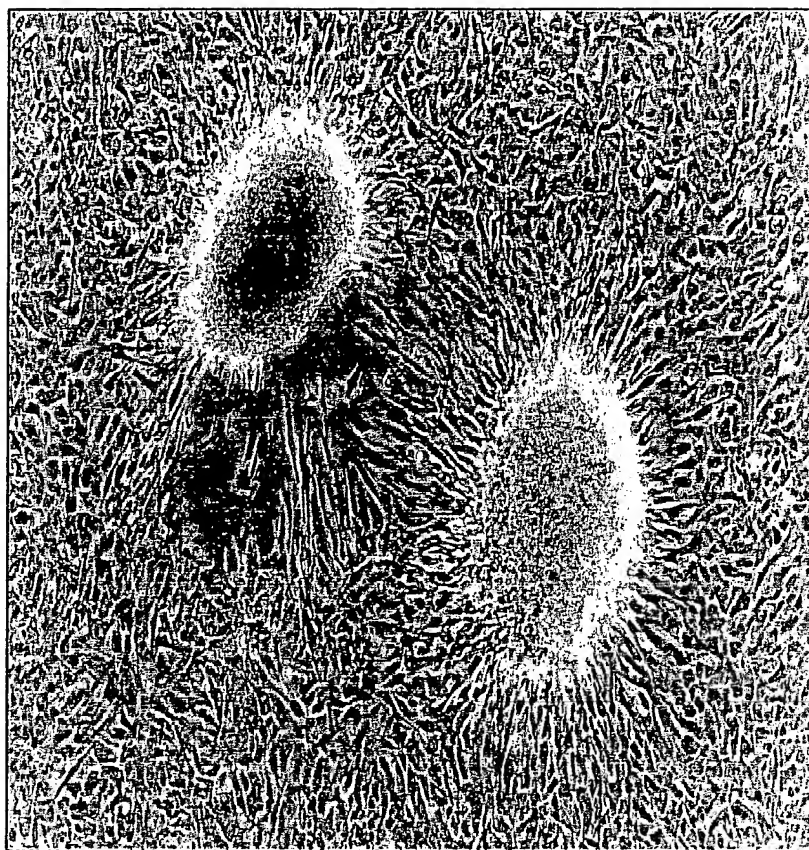
**Histological examination of tissue- like construct
made by macromass culture of chondrocytes.**

FIG 6.



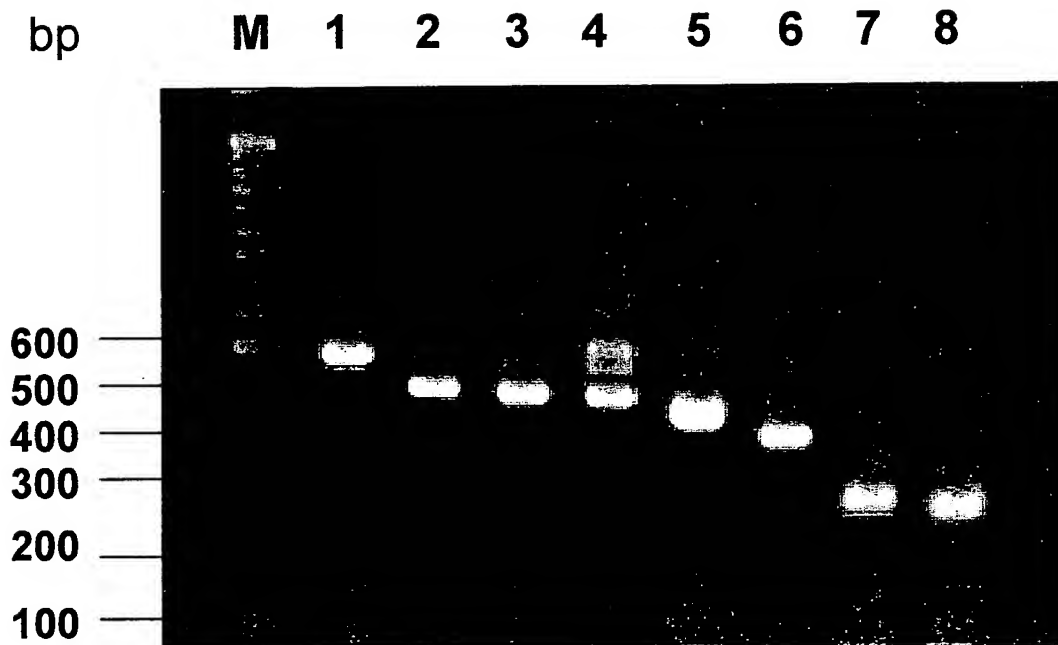
Histological section of tissue-like construct made from dermal fibroblasts by macromass culture, showing positive immunohistochemical detection of Collagen type I.

FIG 7.



Cells regrown from tissue sheet made from dermal fibroblasts for assessing viability.

FIG 8.



M – DNA molecular size ladder

1 – Collagen type I

2 – Syndecan 2

3 – Tenascin-C

4 – Vascular endothelial growth factor

5 – Collagen type III

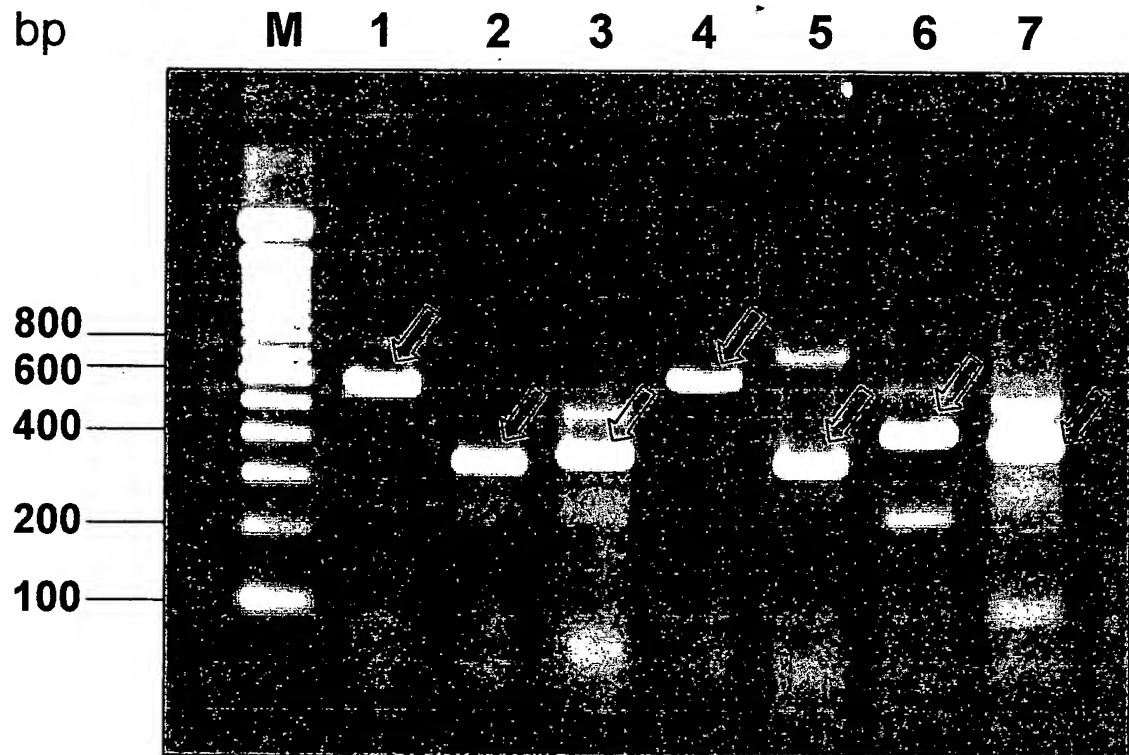
6 – Fibronectin

7 – Keratinocyte growth factor

8 – Transforming growth factor 1 β

Gene expression in tissue sheet formed from dermal fibroblasts by macromass culture.

FIG 9.



M – DNA molecular size ladder

1 – Collagen type I

2 – Osteopontin

3 – Parathyroid hormone receptor

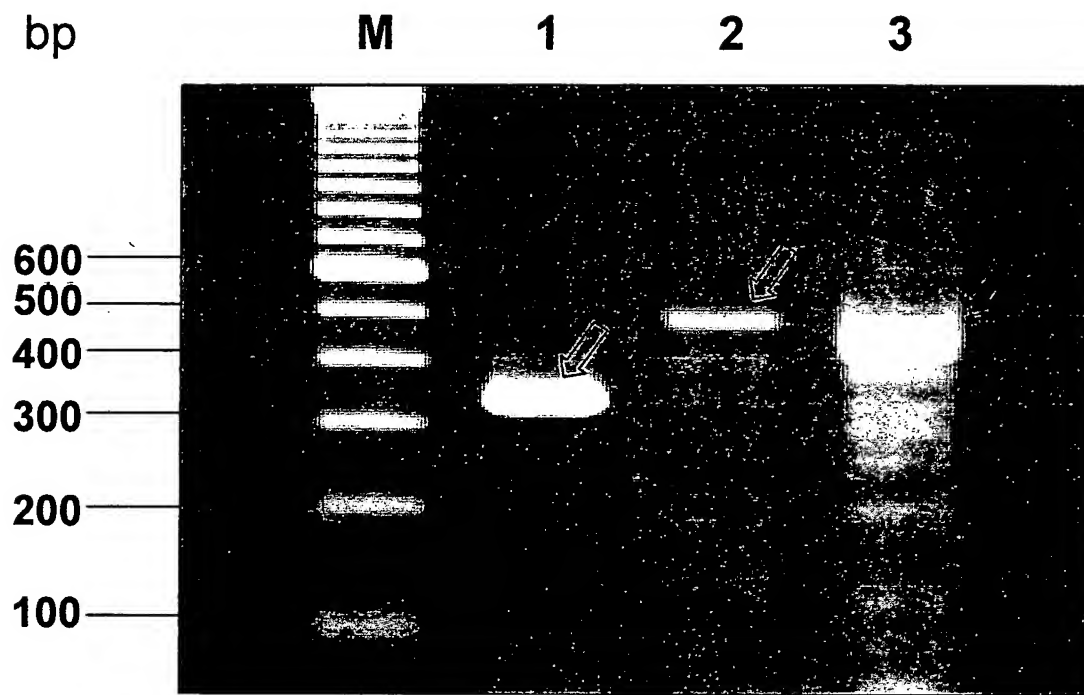
4 – Bone morphogenetic protein 2

5 – Bone morphogenetic protein 4

6 – Bone morphogenetic protein receptor IA

7 – Bone morphogenetic protein receptor IB

Gene expression in tissue sheet formed from osteogenic adipose stromal cells by macromass culture.

FIG 10.

M – DNA molecular size ladder

1 – Aggrecan

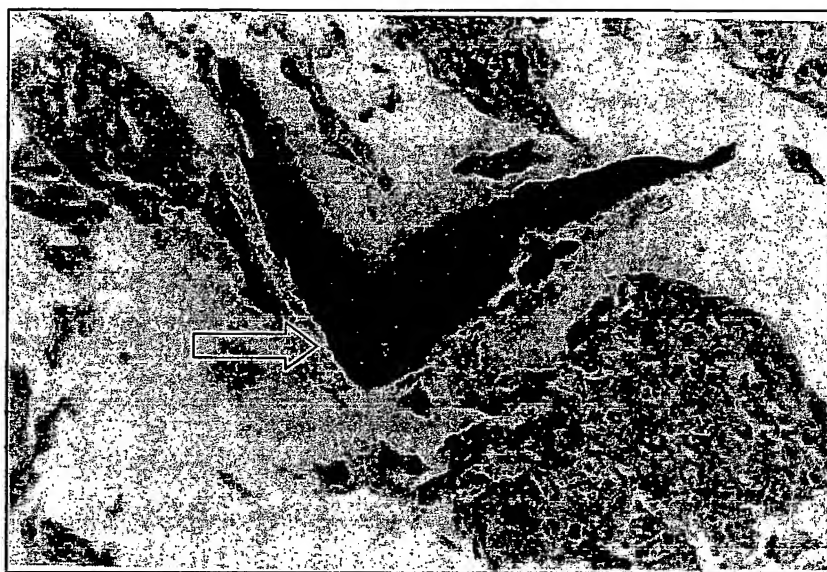
2 – Collagen type II

3 – Collagen type X

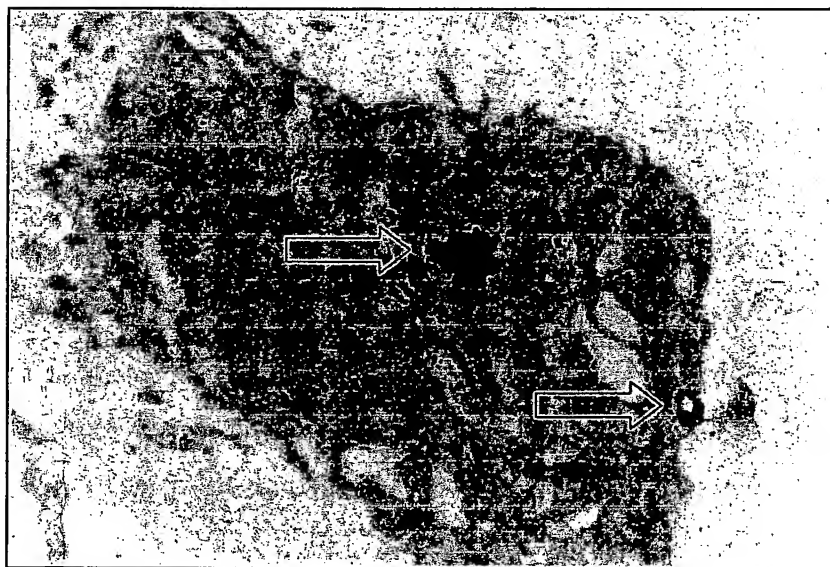
**Gene expression in tissue sheet formed from chondrocytes
by macromass culture.**

FIG 11.

a
Focal actual
bone formation
(Masson-Trichome)



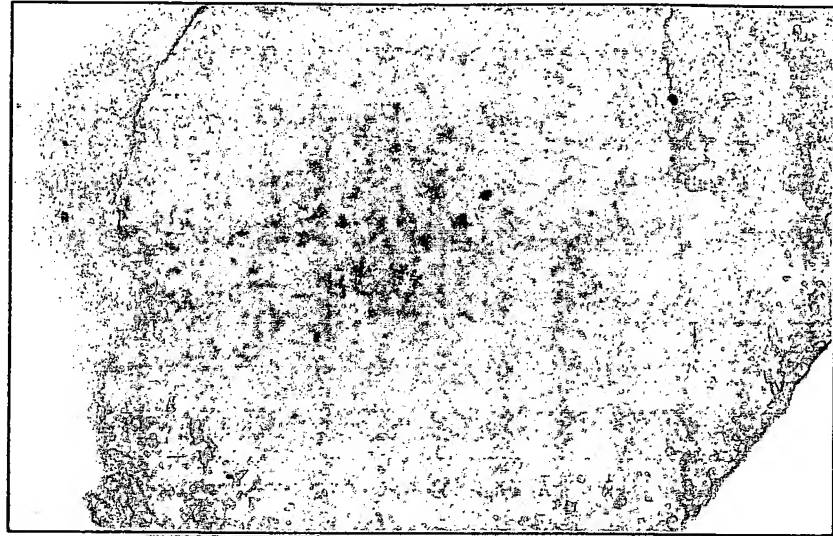
b
Focal calcium
deposition
(Von Kossa)



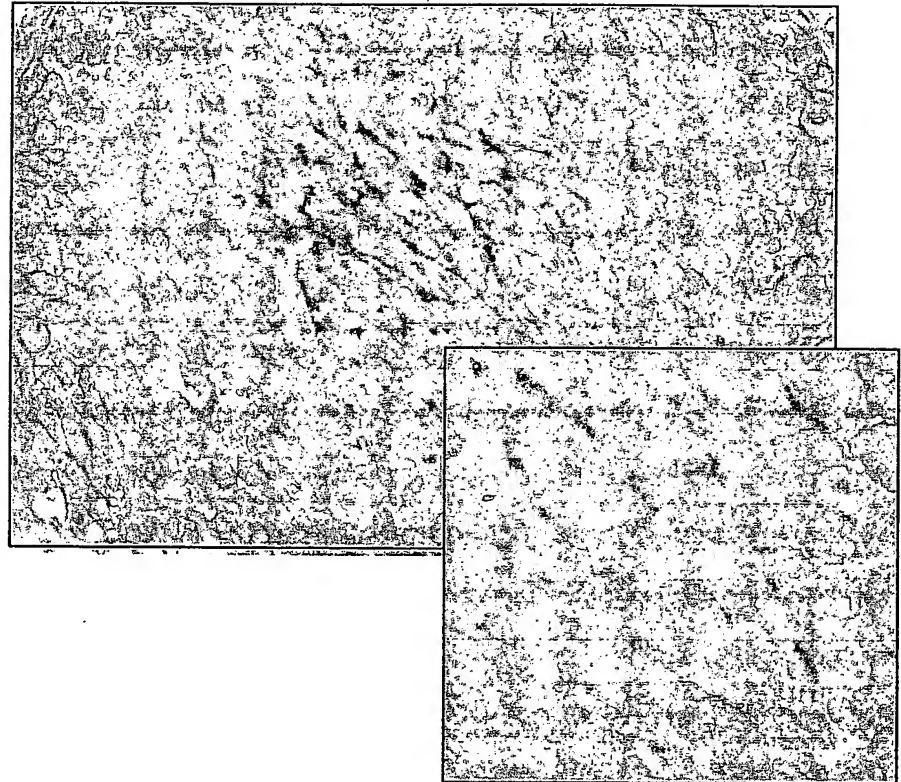
Histological examination of tissue- like construct made by macromass culture from osteogenic adipose stromal cells in the presence of conditioned osteogenic medium.

FIG 12.

a
DMEM + 10% FCS

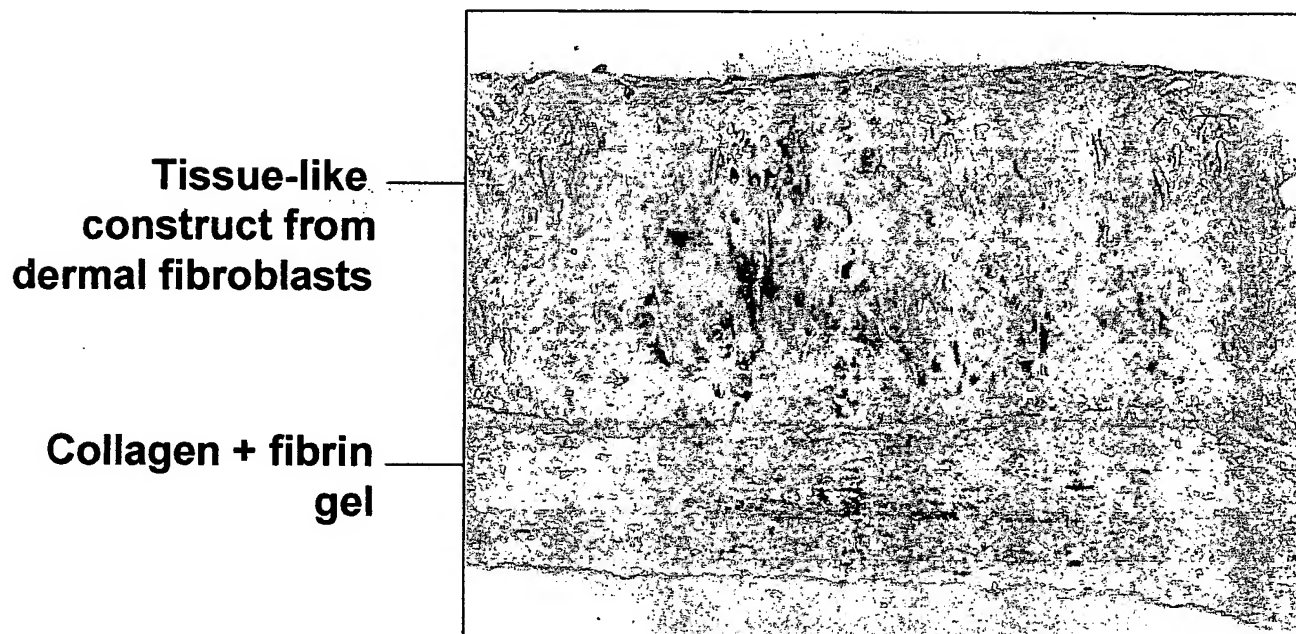


b
Chondrogenic
medium



Toluidine Blue staining of histological sections of tissue-like constructs made from chondrocytes in the presence of chondrogenic medium compared with DMEM + 10% FCS, showing modulation of properties (cartilage-specific ECM formation in b)

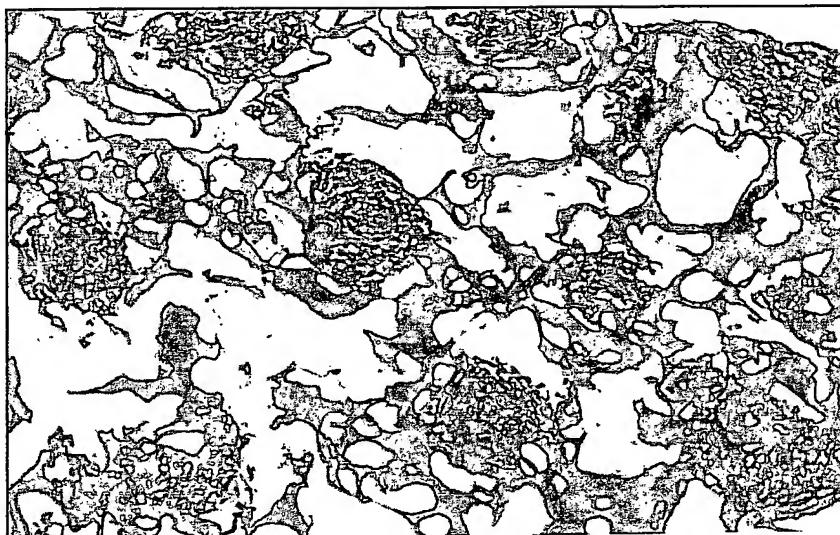
FIG 13.



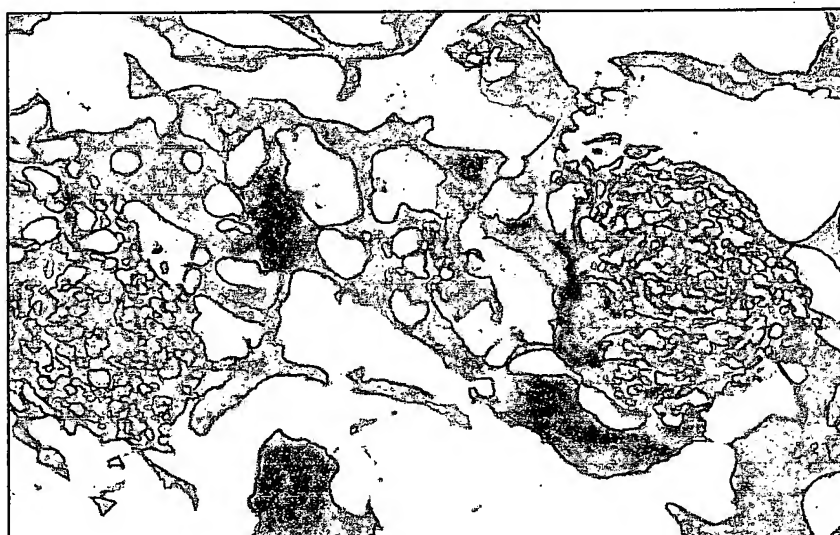
Histological section of a composite object consisting of tissue-like construct made by macromass culture from dermal fibroblasts overlaid with a collagen + fibrin gel.

FIG 14.

Lower magnification



Higher magnification



Histological sections of macromass culture from dermal fibroblasts within a gelatin sponge, showing clusters of tissue-like organization.